

## ABSTRACT.

A superconducting current limiting device (30) comprising: an interconnected high magnetic permeability structure including a central core (50) interconnected to at least a first and second arm (31, 32) branching off therefrom; a superconductive coil (33, 34) surrounding the central core for biasing the central core; a first alternating current coil (36, 37) surrounding the first arm and interconnected to an alternating current source; a second alternating current coil (38, 39) surrounding a second arm and interconnected to an alternating current load; the first and second alternating current coils being magnetically coupled to the central core wherein the device operates so as to limit the current passing through the device upon the occurrence of a fault condition in the load.